

April 17, 2003

Mr. Ron Naventi
[]
Bechtel National, Inc.
River Protection Project
3000 George Washington Way
Richland, WA 99352

Subject: Price-Anderson Amendment Act Program Review

Dear Mr. Naventi:

During the period March 11 - 12, 2003, the Office of Price-Anderson Enforcement (OE) conducted a review of the Bechtel National Inc., (BNI) Price-Anderson Amendments Act (PAAA) Program. Our review included an evaluation of processes to screen noncompliances for applicability under the PAAA, reporting and tracking in the Noncompliance Tracking System (NTS) and internal tracking systems, and correcting deficiencies in a timely manner.

Overall, we categorized your PAAA Program as a "startup" program, requiring additional improvements to effectively support the expanding scope of project activities. Fundamental elements were in place and PAAA activities were being carried out; however, documentation of the program and its implementation was generally lacking. Despite its startup nature, we did note you had effectively identified and reported several significant quality problems to the NTS as a result of the implementation of your Quality Assurance and PAAA Programs. Our review identified several program strengths, including the following:

- The BNI PAAA Coordinator and Analyst were found to be knowledgeable and appropriately qualified for their positions.
- BNI NTS reports were timely and were typically based on assessment or trending results rather than events. Although small, the total number of NTS reports was increasing each year, reflecting a positive, open approach towards reporting.
- BNI management has placed a priority on BNI self-identification of quality problems and focusing causal analysis and corrective actions on behavioral as well as process issues. Although this management emphasis is considered positive, OE did note that this emphasis has not been institutionalized in policy or procedure.
- The BNI corrective action process required independent verification of closure of corrective actions and follow-up assessment of corrective action effectiveness.

Our review did identify several weaknesses, including the following:

- With the exception of Corrective Action Reports (CARs), documentation was generally lacking for PAAA screening and trending activities performed by the PAAA Coordinator. With respect to CAR screening, examples were noted on the Coordinator's local tracking system in which items had been initially screened up to six months previous to this program review but were still pending disposition.
- The PAAA Program Procedure did not accurately reflect or describe the functioning of the BNI PAAA Program.
- Training and qualification requirements for PAAA Program staff have not been identified. Although not currently an issue, such requirements will become relevant if planned staffing upgrades are implemented.
- The Corrective Action procedure did not describe or establish controls for the canceling of CARs entered onto the tracking database. Two examples showed that CARs had been inappropriately cancelled.

OE also noted as a general concern that many of the improvement areas identified during the current OE review (particularly as related to the adequacy of the PAAA Program Procedure and the level of documentation of PAAA screening and trending decisions) had been previously identified in one of two assessments of the BNI PAAA Program performed during 2002. OE is concerned with the lack of management attention and emphasis in correcting these previously identified problems.

Failure to correct the weaknesses noted above may result in a potential reduction or loss of mitigation as described in the DOE Enforcement Policy (10 CFR 820 Appendix A) for any future BNI enforcement actions. Details of the OE review are provided in the enclosure. No reply to this letter is required. If you have any questions, please contact Tony Weadock of my staff at (301) 903-4283.

Sincerely,

Stephen M. Sohinki
Director
Office of Price-Anderson Enforcement

Enclosure: Program Review

cc: R. Schepens, DOE ORP
P. Carrier, DOE PAAA Coordinator
D. Murphy, BNI PAAA Coordinator
V. McIntyre, BNI PAAA Coordinator
J. Roberson, EM-1
S. Johnson, EM-5
L. Vaughan, EM-5
B. Cook, EH-1
M. Zacchero, EH-1
T. Weadock, EH-10
Docket Clerk, EH-10

**BECHTEL NATIONAL, INC.
PRICE-ANDERSON AMENDMENTS ACT PROGRAM REVIEW**

I. Introduction

Bechtel National, Inc. (BNI) is the DOE Office of River Protection contractor responsible for research, testing, design and construction of the River Protection Project Waste Treatment Plant (RPPWTP) at the Department's Hanford Site. BNI became the prime contractor for the project in December 2000 and currently has construction authority for the RPPWTP.

During the period March 11-12, 2003, the Office of Price-Anderson Enforcement (OE) performed a review of the BNI Price-Anderson Amendments Act (PAAA) Program. This review included an evaluation of contractor processes for identification and screening of potential noncompliances, reporting and tracking noncompliances in the Noncompliance Tracking System (NTS) and internal tracking systems, and the formal tracking and resolution of quality issues.

Overall, OE categorized the BNI program as a "startup" program, requiring additional improvements to effectively support the expanding scope of project activities. Fundamental elements were in place and PAAA activities were being carried out; however, documentation of the program and its implementation was generally lacking. Despite its startup nature, OE noted that BNI had effectively identified and reported several significant quality problems to the NTS as a result of the implementation of their Quality Assurance and PAAA Programs. The results of the review are summarized below.

II. General Implementation

The BNI PAAA Program is described in procedure 24590-WTP-GPP-QA-101_2, *Price Anderson Amendments Act Compliance and Reporting*. The BNI PAAA Coordinator and the PAAA Analyst, who reside within the site Quality Assurance (QA) organization, have responsibility for the screening of information sources for potential PAAA noncompliances. PAAA noncompliances determined to be potentially NTS reportable are referred to the PAAA Review Board (PRB), a group of senior BNI managers. Noncompliances determined to be reportable by the PRB are referred

with a recommendation to report to the BNI Project Director, who has final authority to concur or disagree with the PRB recommendation.

The following program strengths were noted:

- Despite the relatively early design/construction phase of the project, BNI senior management clearly recognized their nuclear safety responsibilities under PAAA, and were supportive of the BNI PAAA Program.
- During interviews the BNI PAAA Coordinator and the Analyst were found to be knowledgeable, familiar with site issues and processes, and appropriately qualified for their positions.

The following weaknesses were noted:

- BNI Procedure 24590-WTP-GPP-QA-101_2 did not accurately describe how the BNI PAAA Program was implemented. The following examples were noted:
 - The procedure indicated the identification of PAAA noncompliances was performed by the PRB. Identification of noncompliances was actually performed by the PAAA Coordinator, while the PRB limited their activity to reporting recommendations.
 - The procedure identified that PAAA training was provided only to the PRB. In actuality, PAAA training was being provided to all general employees and to some procurement personnel in addition to the PRB.
 - Numerous deficiencies were noted with the Appendix A flowchart diagrammatically displaying the PAAA Process.
- No formal training and/or qualification requirements had been established for the BNI PAAA Coordinator and the PAAA Analyst positions. No restrictions (based on individual qualifications and experience) had been established to control who could review the various types of source documents. Although not currently an issue, BNI management indicated their longer-term plans included hiring additional PAAA Analysts and use of PAAA initial screeners at the facility level.

III. Identification and Screening

OE evaluated BNI processes for screening of potential PAAA noncompliances by interview of personnel and review of selected screening documentation. BNI had established a Quality Assurance Information System (QAIS) database, which was comprised of various sub-databases relevant to the PAAA Program. Conditions adverse to quality (i.e., assessment findings, deficiencies) were tracked on the Corrective Action Report (CAR) system; other database subsets of the QAIS tracked assessment recommendations, observations, etc. The PAAA Coordinator maintained

a separate list (the PAAA Document Review List) to document the screening of CARs.

During interviews, the PAAA Coordinator indicated a broad scope of information sources was being screened for PAAA noncompliances, including events, assessment findings, external reviews, CARs, nonconformance reports, employee concerns, etc. During attempted review of this area, OE identified that documentation of the screening process was only being maintained for one category of source – the CARs. As noted above, CAR reviews were documented on the PAAA Coordinator's Document Review List. No documentation was maintained for the other sources of information reportedly reviewed. This limited OE's ability to evaluate contractor performance in this area and with respect to reportability and trending (see section IV). The lack of screening documentation was noted as a weakness.

Review of various CARs and the Coordinator's Document Review List demonstrated that a high percentage of PAAA noncompliances were being identified through the assessment process. This compares favorably with some DOE sites, where the majority of noncompliances are identified through review of an operational event. OE review of the Document Review List identified the following weaknesses:

- Terms used to indicate disposition/action of the reviewed items ("track", "trend") were not formally defined and the intended BNI action was not apparent.
- Examples were noted in which source items were reviewed > six months previous and no determination or intended action was identified.

BNI indicated plans were already in place to modify the QAIS database to provide for improved documentation of PAAA screening activities directly into the database. Proposed upgrades are scheduled to be complete by August 2003.

IV. Evaluation of NTS Reportability

OE reviewed BNI processes for noncompliance evaluation and NTS reporting by discussion with cognizant personnel and review of BNI NTS reporting history and trending processes. As of the date of this review, BNI had a limited NTS reporting history with only five NTS reports on the system. An additional report was in the draft stages and has since been reported to NTS. Despite the limited sample size, OE noted the following positive attributes associated with BNI's reporting history:

- Timeliness of the NTS reports typically met DOE guidelines
- The majority of the noncompliances were identified by BNI assessment or trending processes, rather than resulting from significant events
- Reporting numbers reflected an increased trend in reporting (i.e., more reports each year). OE views increased reporting as a positive trend.

Discussion with the PAAA Coordinator and several PRB members indicated the PRB process was working in an effective and timely manner, and provided a senior management perspective on nuclear safety issues. As of the date of the program review, there had been one instance when the BNI Project Director did not agree with the PRB's reporting recommendation. In that instance, the Project Director chose to report a noncompliance the PRB had determined to be non-reportable. OE viewed the Project Director's decision as compatible with OE general guidance to err on the conservative side when making decisions on reportability.

OE noted that trending of quality problems is performed both by the PAAA Coordinator and by a separate QA group with specific responsibility for producing quarterly trend reports. Review of the results identified that both trending mechanisms had been successful in identifying repetitive quality problems. A weakness was noted associated with the documentation of trending performed by the PAAA Coordinator. Documentation was only maintained for those issues identified through trending as repetitive or programmatic and subsequently forwarded to the PRB for reportability review. No records were maintained to document the Coordinator's routine review and those decisions in which it was determined a repetitive or programmatic issue did not exist.

V. Causal Analysis

BNI's Root Cause Analysis process is defined in procedure 24590-WTP-GPP-QA-205, *Root Cause Analysis*. Additionally, BNI has issued a Guide 24590-WTP-GPG-QA-204, *Root Cause Analysis and Corrective Action Development Guide* to facilitate the selection and application of various root cause analysis processes and appropriate corrective action development. A formal Root Cause Analysis is required for Significant Conditions Adverse to Quality as defined in procedure 24590-WTP-GPP-QA-201, *Corrective Action*.

During interviews, BNI senior management acknowledged the need for improvement in the area of causal analysis. Early BNI root cause analyses were viewed as needing improvement, as they often stopped at apparent causes and did not fully pursue underlying causes and factors. Improvement had been noted in more recent analyses, which better pursued the matter to the root or contributing organizational conditions affecting some adverse behavioral action by a worker. Senior management indicated they had given direction to their staff to make sure causal analyses also focused on the behavioral problems leading to the adverse condition, in addition to process problems. In one example, for the programmatic problems of errors and deficiencies in documenting engineering calculations, management rejected the initial causal analysis and required it to better evaluate the behavioral aspects of the problem. The revised causal analysis, after interviews of many workers, concluded the root cause was an overemphasis by supervisors on schedule with an underemphasis on calculation content and procedural compliance.

The following program strengths were noted in this area:

- Management direction and recent examples of focusing attention on behavioral issues as part of root cause analysis efforts
- Well-documented guidance on methods, selection, and performance of root cause analyses

OE did note, however, that the management direction and focus on behavioral issues discussed in the first program strength above had not been institutionalized in any policy, procedure or guide. This lack of institutionalization was noted as a weakness.

VI. Corrective Action Process

BNI's corrective action process was well defined by procedures, including procedure 24590-WTP-GPP-QA-201- *Corrective Action* for conditions adverse to quality and 24590-WTP-GPP-CON-7104 - *Nonconformance Reporting & Control* for discrepant material. Corrective Action Reports (CARs) and Nonconformance Reports (NCRs) are generated respectively for such deficiencies. In addition, BNI had developed and was expanding its electronic Quality Assurance Information System (QAIS), which included the CAR and NCR processes as modules. Other modules are the RITS process (Recommendations and Issues Tracking System) for managing resolution of improvement items, commitments and issues that are below the level of conditions adverse to quality, and the Observation Tracking System for Observations from QA Audits and Surveillances.

OE review included discussion with cognizant personnel, in addition to review of a sample of CARs and NTS report corrective actions. For the sample of CARs and NTS reports evaluated, corrective actions were closed in a timely manner. The OE review identified the following program strengths:

- BNI management has placed a strong emphasis on the BNI self-identification of issues and quality problems (as opposed to identification by an external source). BNI tracks the percentage of CARs self-identified by division and has established performance measures to improve performance. During 2002, BNI reported 92% of quality problems reported on CARs were self-identified.
- BNI was revising the CAR process to require the management Safety/Quality Council to approve any extensions to corrective action dates, providing closer management attention to timeliness of completing corrective actions. BNI had also established a performance metric to monitor frequency of missed completion dates for corrective actions. Performance in this area improved over the fourth quarter of 2002.

- The CAR procedure required QA independent verification of the completed corrective actions prior to closing a CAR. BNI also performed follow-up verification assessments for significant CARs to ensure corrective actions are effective.
- The CAR process was being revised to require determination by QA of appropriate compensatory measures for issues having potential significant programmatic impact.

OE review of selected CARs identified that CARs entered on the CAR database were occasionally canceled or withdrawn. The following weaknesses were identified:

- The CAR procedure did not address steps to withdraw or cancel a CAR.
- OE noted two CARs were canceled based on inappropriate resolution. In one instance, the CAR disposition stated the issue was contained in a separate CAR; however, OE review identified it was not. In the second example, a CAR describing a quality problem was cancelled with the justification that it would require multiple CARs to be issued for each involved organization. Instead, a surveillance of the issue was conducted. BNI acknowledged the errors, and issued a CAR to correct these improperly resolved CARs and to add proper controls into the CAR procedure.

VII. PAAA Program Assessments

During 2002, two separate reviews of the BNI PAAA Program (one self-assessment using Bechtel offsite support and one DOE Office of River Protection Assessment) were performed. During the current review, OE reviewed both assessments and discussed the recommendations and status of the assessments with BNI staff.

OE noted BNI's performance of a self-assessment in this area represents a positive initiative. Additionally, OE acknowledged several changes were made in response to recommendations made in the assessments. OE noted as a general concern, however, that many of the improvement areas identified during the current OE review (particularly as related to the adequacy of the PAAA Program Procedure and the level of documentation of PAAA screening and trending decisions) had been identified in one or both of the prior 2002 reviews. BNI staff indicated their general intent to address the recommendations, and they cited competing priorities as the explanation for not having done so to date. OE is concerned with this lack of management attention and emphasis on correcting these previously identified problems.

VII. Conclusion

The above summarizes OE's review of the BNI PAAA program during the period of March 11-12, 2003. Improvement items identified during the subject review should be addressed to receive mitigation consideration in any future enforcement deliberation and to ensure that nuclear safety problems receive appropriate recognition and action. Any actions taken to address these items should be appropriately coordinated with the responsible DOE Field and Program Office management.